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# **IOP** | Institute of Physics

## **Physics Communicators Group**

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NEWSLETTER

August 2012

Issue no. 10

**Quantum Physics on TV: the making of a science documentary – Prof Jim Al-Khalili will speak at 20 November Award Meeting**

Contents

**Editorial**

**Summer Meeting Review**

**Impressions of the Summer Meeting**

**Simon Singh Workshop – Physics on the Radio**

**The Very Early Career Physics Communicator Award**

**2011 PCG Award Finalists – Where are they now?**

**Lab in a Lorry: the ‘Lab in a Lorry’ debate**

**Physics Communicators Group Membership Survey**

**Three Minutes of Fame**

**The STFC Communicators Meeting – June 2012**

**Committee Changes**

**Editorial**

*John Dore*

*Newsletter Editor, Physics Communicators Group*

This issue contains a report on the annual meeting and the call for nominations for the 2012 ‘Very Early Career Physics Communicator’ award, with other news items, as noted above.

## Summer Meeting Review

*The Medium is the Message: Broadcasting, podcasting, YouTube and other ways of communicating physics.*

The 2012 Physics Communicators Group summer meeting began at 1pm following registration and refreshments. Martyn Bull, Chair of the group, gave the meeting introduction with a reference to Marshal McLuhan's phrase 'the medium and the message' and related how an accident of typesetting changed the book title to 'The medium and the massage' which the author left in place. The assertion was that the 'medium shapes and controls the scale and form of human association and action'. (Understanding Media, NY, 1964, P9).



Simon Singh

The meeting went on to consider this with the first speaker, the writer and broadcaster Simon Singh, who highlighted the power of YouTube to propagate material and websites such as the Kahn Academy, <http://www.khanacademy.org/>, and the experiments of Prof. Richard Wiseman, (<http://richardwiseman.wordpress.com/>) (<http://news.bbc.co.uk/1/hi/uk/3271309.stm>) to influence teaching and learning were some of those highlighted. Also, he suggested, was putting physics with ballet, both hated by many people, a good idea? Similarly, is the high expense of keeping a lorry on the road filled with physics justified? An interesting talk with a thought provoking message regarding the use of resources and the overall reach and impact of the message.



Deborah Cohen

Deborah Cohen, the award winning editor of the BBC Radio Science Unit, considered 'Another voice in the room: engaging listeners with physics on the radio'. Several shows were mentioned, Frontiers - science documentary, Material World - Science news, All in the mind - psychological research, as well as the award winning show The Infinite Monkey cage, (<http://www.bbc.co.uk/podcasts/series/timc>), with presenters Brian Cox and Robin Ince. The point was made that "we are in the entertainment business and are trying to inspire people rather than educate people".

The final speaker was Melissa Akdogen, a director and producer whose shows have been on various TV channels including National Geographic, Discovery and the BBC. Action works, will the show make money? The big idea is needed in a clear simple way. Ratings are important as is a mass audience. Is the program



John Dore, Communicators  
Group Newsletter Editor,  
and Melissa Akdogan

accessible to someone with a GCSE science? Program commissioners don't want chemical equations or the standard model. James May's programs 'Man Lab' and 'Toy Story' were also highlighted. A person with a passion is important.

A networking session was organised so that the delegates could have an opportunity to meet each other in a random way. Refreshments followed this session and provided an opportunity for a new Group Committee photograph.

The 2012 Very Early Career Physics Communicators Award was officially launched by Rhys Phillips, a winner from last year, and Dr Suzie Sheehy one of last year's runners up, who spoke about their experience of the competition. Both encouraged members of the audience to nominate someone for the 2012 award.



Rhys Phillips and  
Suzie Sheehy



Lena Weber and Alessio  
Bernardelli

The final part of the day was 'Investigating the interaction between the audience and the media' This discussion session was introduced by Alessio Bernardelli, a former teacher and IOP teacher co-ordinator now working for the TES, <http://www.tes.co.uk/article.aspx?storyCode=6168575> and Lena Weber, who works for the IOP and manages the IOP Blog, <http://www.iopblog.org/>. Committee member Ann Marks managed the discussion session following the introduction.

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Bob Boutland has been writing reports for the newsletter of the South East region for a number of years; he has also been the Treasurer of the PCG for the last three years but has now retired from this position. The article above was written by him and this newsletter provides us with a convenient opportunity to record our thanks for all his contributions to the dissemination of physics to the wider community and we wish him well in his future activities. [Ed.]

## Impressions of the Summer Meeting

*Suzie Sheehy and Rhys Phillips*

At the end of June, we attended the IOP Physics Communicator's Group Summer Meeting at Portland Place. Having competed in the Young Physics Communicators competition back last November, it was a pleasure to be present for the launch of this year's award. The afternoon started with a key note speech from Simon Singh. In it, he talked about effective physics communication, highlighting some initiatives that most of the audience had never heard of and having surprising views on well known initiatives such as Lab in a Lorry and the IOP collaboration with Ballet Rambert. These sorts of initiatives are generally considered to be engaging and effective but Simon challenged these views, attacking them as being resource intensive, forcing the audience to think hard about the projects. Whilst neither of us agreed with everything Simon had to say, he did make us think in particular about why we need initiatives such as these as compared to his example of Vi Hart's Maths Doodling and demonstration videos created by Richard Wiseman. Whilst the videos are clearly low cost and very engaging, we both think that there is a real need for hands on experience in order to really engage people into the sciences. It would be interesting to see some evidence of the impact of 'real' vs. 'virtual' science experiences. It is also worth remembering that Simon's viewpoint must come from a slightly different perspective to the rest of us - he is undoubtedly one of the most engaging science communicators around. But he isn't in a position where he is obliged to meet any particular target audience - it is entirely his own choice. Lab in a Lorry is there to meet a specific objective. How effective is it? I guess we don't really know, but Simon does raise some interesting points on a recent blog post on the subject.

Deborah Cohen gave a fascinating insight into the world of science radio at the BBC. With examples of programmes made by the radio science unit for Radio 4 and the World Service, she showed a wide range of topics and subjects being covered across the medium. We don't think that anyone can argue that what the BBC does for science on the radio is challenged anywhere else in the world. One example she mentioned was the coverage devoted to "Big Bang Day" just a few years ago - a popular topic covered throughout the day on Radio 4. But what about the other way round? What about less traditionally popular science stories on more popular radio stations. Knowing that that it is the disaffected 18-30ish age group that we need to reach out to, is Radio 4 realistically going to be the best method? Ceri Brenner made some great points on this at the meeting and we think as a community we ought to consider how to integrate ourselves into popular culture through this medium. TV does this already with many popular science shows aimed at children, families, teenagers and young adults spread across a range of popular networks. And we still get the 'high brow' stuff too of course, albeit often hidden away on BBC4.

Talking of TV, it was refreshing to hear Melissa admit that the science is less important than the 'wow' factor when it comes to making a TV show. Unless you can really make it look cool, it won't make TV. But surely with the quality of science communication in the UK, we can do that with practically any topic now? She also gave a great insight into how to go from 'I think topic x would be great on TV' to forming an idea for a TV show, what to expect, how to go about it and what people actually want to see. This fed home a message about communicating not just the science itself, but its importance, relevance and implications for our lives.

The networking session was as always, a key part of the afternoon. Catching up with some old faces whilst meeting many new like minded people left everyone with a bit of a buzz typical of these sorts meetings. Often, new friendships, partnerships and collaborations are formed and we have no doubt that this will once again be the case. The final part of the afternoon saw two short presentations - one from Alessio who showed some of the innovative teaching methods he used before leaving his school to work for the Times Education Supplement. He is undeniably an inspirational science teacher and it almost begs the question why he was allowed to leave the field! Finally a few words about the IOPs blog pages and blogging protocol in general. This turned into a group discussion ranging from issues with the BBC and 'balance', examples of exciting TV shows from across the world and an animated debate on free speech in the blogosphere.

All in all, we thoroughly enjoyed the event and hope to see more of this sort of thing from the IOP.

## Simon Singh Workshop – Physics on the Radio

*Paul Millar*

How do we get physics on the radio? Nine keen science communicators joined Simon Singh (science writer and broadcaster) at a workshop on 29 June to attempt to answer this, and gain an insight into what makes successful broadcast material. They were looking at the way science is currently being aired, particularly on local radio. The participants ranged from general scientists who were prepared to talk on almost all aspects of nature, right through to experts who only felt comfortable when speaking in depth about their own particular specialism. Similarly, there was a broad spectrum of existing media exposure, from those who had only done a couple of appearances to others who have regular weekly radio shows.

Simon chose a roundtable discussion format, giving everyone the opportunity to outline what they are doing already, sharing experiences and welcoming supportive criticism and new ideas. The atmosphere was relaxed but the exchanges were nevertheless lively and informative. It was obvious that some communicators are pretty successful and have established good core audiences, but it also became apparent that it is difficult to get an accurate feel for the total size and distribution of the populations being reached. Given that everyone wants to understand the value of their effort, the practicality of lobbying Ofcom to help in providing more useful listener statistics tools was considered. On the content front, there was some useful discussion between the more experienced practitioners and those just setting out. The importance of finding engaging angles was explored, and tips for how to include spontaneity, topicality and reference to local interest were debated. Different techniques and styles were explored. An ad hoc interview exercise on “the life of Turing” drew an exclamation of “Awesome!” from one of the delegates, and amply illustrated that there was real talent around the table. Recognising this, the delegates chose to share email addresses with a view to creating a community of interest and possibly set up future collaborations.

The consensus view was that it was really good to have Simon leading this workshop and bringing his experience and his own particular perspective. Delegates valued the mix of skills around the table and the enlightening exchange of ideas. Tips on access to the BBC regional booths was seen as a very useful snippet, but some would have valued more time to discuss other routes for establishing relationships with radio stations and producers. Unfortunately, on this particular occasion, the meeting had to be constrained to an hour and a half. In that time some very good discussions took place, but everyone agreed in retrospect that this wasn't long enough; some topics had only just been touched upon and the meeting had to close before some key areas of interest were fully addressed. Overwhelmingly though, the delegates thought workshops like this are very worthwhile, raising awareness and developing networking opportunities, but all stressed that the duration needs to be longer in order to have proper in-depth discussions and achieve more of their collective goals.

A key takeout was that there is a genuine appetite for more science-based items on broadcast radio, so anyone with an inclination and an aptitude for talking about physics in an engaging and entertaining way should be encouraged to approach their local radio stations.

## The Very Early Career Physics Communicator Award

*Applications now open!*

The 2012 Very Early Career Physics Communicator Award was officially launched at our summer meeting at the end of June with very positive comments made by both Rhys Philips (a 2011 award winner) and Suzie Sheehy (a 2011 award finalist) about the award event they attended last year and the contacts they have made through their participation.

Once again we invite applications from people at the start of their careers in physics who have undertaken activities that support and encourage excellent communication of physics. Applicants do not need to be a member of the IOP, but should be one of the following:

- An undergraduate physicist;
- A person involved in an appropriate postgraduate study within a few years of a degree qualification (not more than 5 years);
- A person working as a physicist in UK or Eire within the first 5 years of their physics career.

### *The Prize*

The award seeks to recognise excellence in communication skills of physicists who are at the beginning of a career in physics. The winner will receive £250 and an award certificate at an IOP Physics Communicators Group event to be held at the IOP on Tuesday 20<sup>th</sup> November.

### *Application*

Applicants should submit a report of their communication activities, no more than 1500 words long, including brief details of their academic physics work or study, evidence of communication activities undertaken to encourage others in physics appreciation or the general understanding of physics and the names and contact details of two referees with close knowledge of the applicants work and/or their communication activities. The report should be submitted along with an application form (available from our group web page) and a CV by email to the Physics Communicators Group secretary, David Smith: [david.smith@brunel.ac.uk](mailto:david.smith@brunel.ac.uk), **before the deadline of 15<sup>th</sup> September 2012.**

### *Please note:*

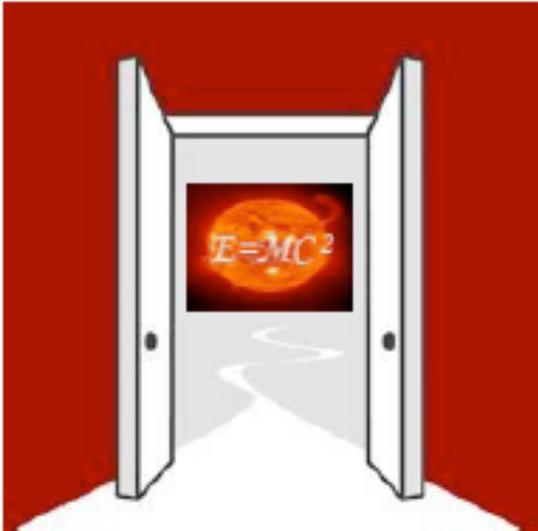
Any person wishing to nominate another for the prize must enclose the written consent of the nominee. At the award ceremony those shortlisted will be expected to give a short presentation (no more than 10 minutes) after which the winner will be announced. Shortlisted candidates must be prepared to be interviewed by the IOP and appear on IOP websites and within IOP publications.

For full details about the award and to download an application form, please visit our Physics Communicators Group award web page here:

[http://www.iop.org/activity/groups/subject/physcom/prize/page\\_50554.html](http://www.iop.org/activity/groups/subject/physcom/prize/page_50554.html).

**IOP** | Institute of Physics  
**Physics Communicators Group**

Can you open the door to understanding Physics?



**The Very Early Career Physics Communicator Award**

*seeks to recognise excellence in communication skills of physicists who are at the beginning of a career in physics.*

<p><b>Eligibility</b> Applicants do not need to be a member of the IOP, but should be one of the following:</p> <ul style="list-style-type: none"> <li>• An undergraduate physicist</li> <li>• A person involved in an appropriate postgraduate study within a few years of a degree qualification (not more than 5 years)</li> <li>• A person working as a physicist in UK or Eire within the first 5 years of their physics career</li> </ul> <p><b>Application:</b> Submission of a report of their communication activities which should be no more than 1500 words long. Further details and application form available by clicking the "prize" tab at: <a href="http://www.iop.org/activity/groups/subject/physcom">http://www.iop.org/activity/groups/subject/physcom</a></p> <p><b>Submission deadline:</b> 15th September 2012</p>	<p><b>Where:</b> All entries should be submitted by email to the Physics Communicators Group secretary David Smith: <a href="mailto:david.smith@brunel.ac.uk">david.smith@brunel.ac.uk</a></p> <p><b>Prize:</b> The winner will receive £250 and an award certificate at an IOP Physics Communicators Group event in November. As well as providing recognition of the winner's work through the prize money, the process will also facilitate networking opportunities for all participants.</p> <p><b>Award Ceremony:</b> November 20th 2012 at IOP, Portland Place, London, W1B 1NT. The prize will be awarded by broadcaster and academic Prof Jim Al-Khalili</p>
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## 2011 PCG Award Finalists – Where are they now?

**Aude Ondulade** is now teaching science at Newton Abbot College (Newton Abbot, Devon). I teach Physics, Chemistry, Biology, and STEM lessons to 11 to 18 years old. In parallel, I have also been carrying on my ambition of developing teacher's knowledge and skills in astronomy in the classroom, with a couple of lectures this year to science teachers (At-Bristol Urban Stargazing in April, SW Physics Teacher Conference in June), and more to come in Autumn (ASE Conference in November). [[aude.alapini@gmail.com](mailto:aude.alapini@gmail.com)].

**Rhys Phillips** continues his role as Research Engineer at EADS Innovation Works where he is due to embark on a secondment in Toulouse from January 2013. He continues to present several radio shows on Radio Cardiff and has recently been co-opted onto the IET Communities Committee UK where his role includes helping to look after the budgets for the UK volunteer networks and organising the annual UK volunteers conference. As part of a small team, he has also recently successfully run the first Cardiff Science Festival in 7 years - 50 events in 20 venues across 7 days organised entirely by volunteers on a shoestring budget. His science variety night, The Pythagorean Cabaret has now moved on from Cardiff and been performed in London, Bracknell and Birmingham. [[rhys@rhysphillips.co.uk](mailto:rhys@rhysphillips.co.uk)].

**Susie Sheehy** continues as Research Fellow in the ASTeC Intense Beams Group at STFC Rutherford Appleton Lab. I am focusing on research presently but my current communication activities include regular public lectures (presented at the Ri, IOP, National Space Centre among others) and I'm about to embark on a new, exciting blogging project. [[suzie.sheehy@stfc.ac.uk](mailto:suzie.sheehy@stfc.ac.uk)].

**Martin Archer** is still at Imperial College London and on Kiss FM and regularly popping up on the BBC, Sky News and CNN to talk about Physics. [[martin.o.archer@gmail.com](mailto:martin.o.archer@gmail.com)].

## Lab in a Lorry: the ‘Lab in a Lorry’ debate

*Caitlin Watson – IOP Head of Public Engagement*

In a world with limited resources, evaluation is a vital aspect of all outreach and engagement activities. ‘Lab in a Lorry’ was independently evaluated in 2005 and 2009 and both reports are available to anyone who is interested in reading them. If you would like to see the project in action, ‘Lab in a Lorry’ will be operating in Scotland and the north west of England this Autumn. To arrange a visit and the chance to talk to students, teachers and volunteers about their experiences, email [labinalorry@iop.org](mailto:labinalorry@iop.org). Further information can be found on the Lab in a Lorry website: [www.labinalorry.org.uk](http://www.labinalorry.org.uk).



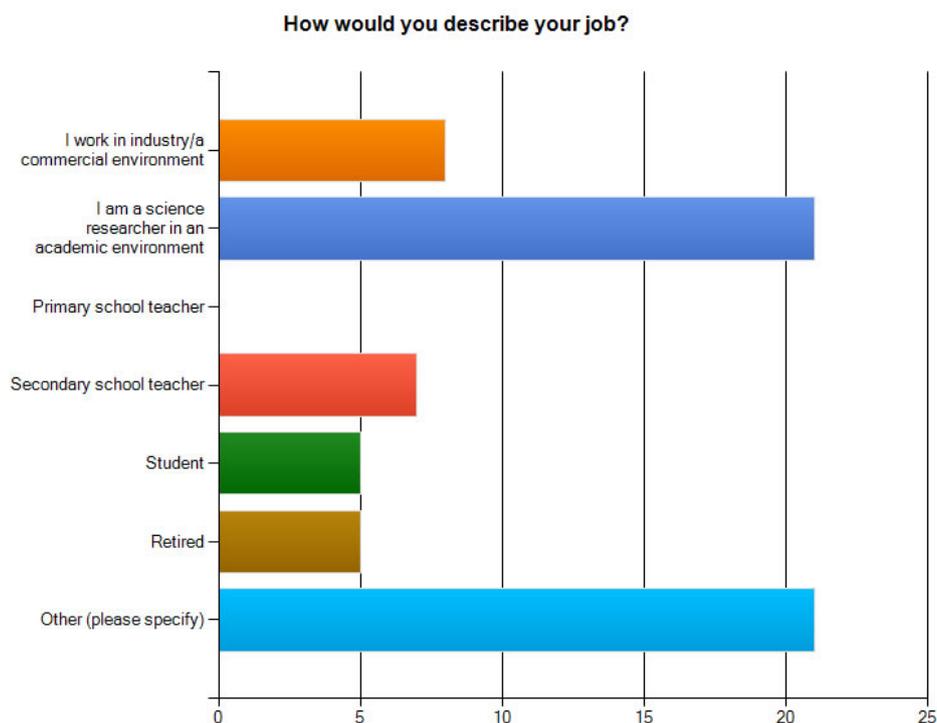
## Physics Communicators Group Membership Survey

*Kevin Mosedale*

Earlier in the year, all members of the Physics Communicators Group were invited to take part in a survey so that we could find out more about our membership. The focus was on finding out more about jobs and how they relate to communicating physics and also about how we could improve our communication with members. Sixty six members completed the survey, which is a decent response compared to the size of the group.

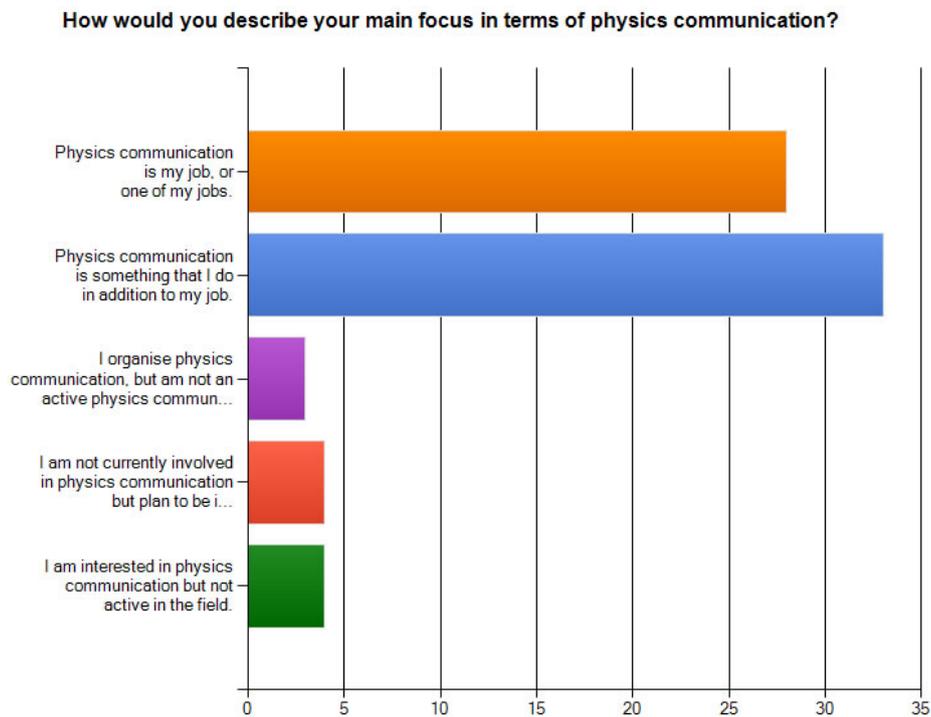
The first question was “How would you describe your Job?” A bar chart of responses is shown right.

In the “other” category, there were responses from a professional science communicator and an outreach officer in a university to name but two, but



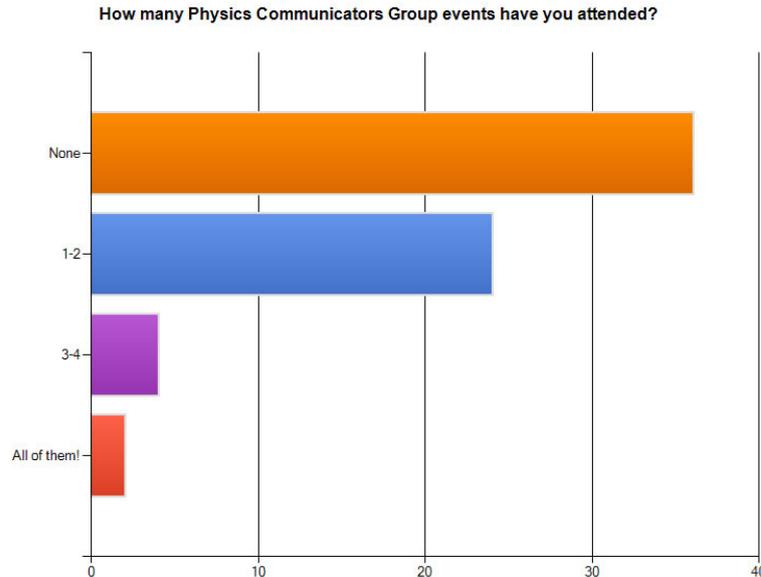
virtually all were involved in science communication or education in some way. It is pretty clear that our membership encompasses a wide range of professional activities and although we thought that this was the case, it was good to have a little more data to back it up.

The second question was “How would you describe your job in terms of physics communication?” and again a bar chart of the responses is shown below. It certainly showed (perhaps not surprisingly) that the majority of our membership is actively involved in some aspect of physics communication or plans to be in the near future.



The questions about the group webpage, both on the public IOP website and via myIOP were useful and informative as we seek to make both pages more relevant to members' needs. It was also good to see about 50% of the membership interested in using Twitter and LinkedIn as a way of the group having different communications channels with members. The committee will be looking at these options in the near future to see if a viable way forward can be identified.

Finally and with the last group summer meeting having just taken place, it was interesting to see how many members have attended an event. You can see the results below (which don't include the recent summer meeting) and if you fell into the category of members who have never been to an event, then do think about coming along to the Group Prize meeting on Tuesday 20<sup>th</sup> November, when Jim Al-Khalili is speaking.



## Three Minutes of Fame

*FameLab champion and International finalist Andrew Steele tells us about his experience*

FameLab is a competition which seeks out upcoming science communicators by asking that they do something rather tricky - present an engaging piece of science in just three minutes, using no visual aids and (optionally) props they can carry with them onto the stage. After winning the UK final at the Royal Institution in March this year with a talk about the quantum mechanics of carrots, I went through to the international stages of the competition at the Cheltenham Science Festival, where I won the Online Vote for my explanation of how 3D glasses work.

The competition was brilliant fun to be involved with. Science communication in general seems to attract lovely people, and FameLab was no exception. You also get to meet scientists from a huge variety of fields: I met people studying norovirus, polymers, ageing, frogs and even preservation of silk cultural artefacts! There's also an emphasis on training for the competitors, and one of the highlights of the experience was our UK finalists' training weekend in at a snowy hotel in rural Gloucestershire, where we were given tips on communicating in a variety of different media in environs only slightly reminiscent of *The Shining*.

Whether you're talking about silk or supernovae, the key really seems to be choice of topic. Choosing an aspect of the field about which you can convey both a sense of awe and understanding in such a short period of time is an enormous challenge – but a rewarding one when you get it right!

Now, it all starts again this year with a series of local rounds in the UK this autumn. If you fancy getting involved or just want some more details, visit [www.famelab.org/uk](http://www.famelab.org/uk). If you'd like to watch my talks, or the other UK and international finalists', head to [www.andrewsteele.co.uk/famelab](http://www.andrewsteele.co.uk/famelab).

[Andrew completed a DPhil in magnetism at the University of Oxford, last year and, after nine months of post-doctoral work, is currently a freelance physicist and science communicator. You can contact him at: [statto@andrewsteele.co.uk](mailto:statto@andrewsteele.co.uk)]

## The STFC Communicators Meeting – June 2012

*John Dore [who uses ISIS and Diamond at the Rutherford Appleton Laboratory]*

It is not only the Physics Communicators Group at the IOP that is actively encouraging young scientists to become engaged with communicating science. On 29<sup>th</sup> May, the Science Technology Facilities Council that is responsible for the running of major facilities in the UK and abroad, organised a meeting at the Rutherford Appleton Laboratory (RAL) devoted to the public engagement with science. This was a second meeting of what is now becoming an annual event but the format had changed somewhat in order to emphasise the contributions that can be made by young researchers. There are three major research centres at RAL covering a wide range of scientific investigations; they are the ISIS Neutron and Muon Source, the Diamond Light Source and the Central Laser Facility. The topics studied are not restricted to physics, of course, and span across the whole of the science spectrum.

The programme involved a description of the facilities and some examples of the work conducted. Two researchers spoke about their experience and the presentational challenges in making a programme for television. Ceri Brenner (a committee member of the Physics Communicators Group) featured on a panel that focussed on the way in which PhD students from different universities experience the joys and pitfalls of working on a large central facility. Suzie Sheehy provided an exhibit that demonstrated particle acceleration. There were also some workshops where delegates were challenged to come up with a 'catchy phrase' about their research that would attract attention from the general public, where only 20 seconds was judged as the period in which contact might be made! The message seemed to be that the people who are doing the science need to get out and talk about it and should not retire to their labs muttering that the work they do is 'too complicated' to explain to non-scientists. In fact, several of the Research Councils now specify that PhD students should spend some of their time in public engagement activities to explain what they are doing in 'relatively simple' terms.

## Committee Changes

Bob Boutland has retired from the Committee as Treasurer and is replaced by Phil Furneaux, who was already a member of the committee.



Some of the members of the PCG committee are pictured to the left: they are Martyn Bull (Chair) and David Smith (Secretary), seated; Ceri Brenner, Kevin Mosedale, Paul Millar, Phil Furneaux, Ann Marks and John Dore (standing). Bob Boutland is not shown, as he took the photo! Cerian Angharad and Robert Round were unfortunately not present to complete the line up.

Chris Sinclair has joined the committee as an Ordinary Member following nomination at this year's summer meeting.

**Phil Furneaux** has been an A-level teacher for nearly 30 years. He has recently retired from William Howard School, Brampton, Cumbria. He is an examiner for OCR. He works at the Lancaster Physics Department as the School Outreach Officer sponsored by the Ogden Trust ([www.ogdentrust.com](http://www.ogdentrust.com)). His experience helps to provide activities that suit the needs of examination boards *and* individual students. He has recently been appointed as an IOP Physics Network Coordinator. Contact Phil on: [p.furneaux@lancaster.ac.uk](mailto:p.furneaux@lancaster.ac.uk).



**Chris Sinclair.** I am currently a research associate at UCL where I work as an MRI physicist, helping develop new imaging techniques for medical trials. I also give lectures on introductory physics to MSc students. Prior to this I was at Imperial College in the Centre for Cold Matter where I completed my PhD in 2006. We used laser cooling and the tiny magnetic fields created by videotape to trap and manipulate ultracold quantum gases close to the surface of so-called 'atom chips'. I have been involved in science writing for a number of years. I was shortlisted for the Guardian/Wellcome Trust writing prize last year, write for BBC science Focus magazine and enjoy making radio and audio features.



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## Feedback

The committee welcomes comments on the activities described above and suggestions for other activities. Please contact the secretary David Smith directly ([david.smith@brunel.ac.uk](mailto:david.smith@brunel.ac.uk), 01895 266593) or through MyIOP (<http://my.iop.org>).

The Group's webpage is <http://pcom.iop.org>.

## Newsletter

Do you have any news that could be included in our next newsletter? If you would like to include something in future editions of this newsletter please send copy to John Dore ([J.C.Dore@kent.ac.uk](mailto:J.C.Dore@kent.ac.uk)).

## Joining the Group

To join the group please log onto MyIOP (<http://my.iop.org>), navigate to the relevant Network for the Group and select *Sign up for this network*. Alternatively please contact the membership department. All groups are free to join, however to join a group you must first be a member of the Institute. Details of how to join the Institute can be found at [www.iop.org](http://www.iop.org).

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This newsletter is also available on the web and in larger print sizes.

The contents of this newsletter do not necessarily represent the views or policies of the Institute of Physics, except where explicitly stated.

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